

SECTOR \$

Attorney Docket No. 60,130-464

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Chu  
Serial No.: 09/326,308  
Filed: June 7, 1999  
Group Art Unit: Unknown  
Examiner: Unknown  
Title: DUAL CABLE ARRANGEMENT



Assistant Commissioner of Patents  
Attention: Box Missing Parts  
Washington, D.C. 20231

**NOTICE OF MISSING PARTS RESPONSE**

Dear Sir:

In response to a Notice of Missing Parts mailed July 9, 1999, a copy of which is included herewith, applicant provides the following:

- a signed Assignment;
  - a signed Combined Declaration and Power of Attorney;
  - a verified English translation and a statement that said translation is accurate as set forth in 37 CFR 1.52(d);
  - a Substitute Specification being filed pursuant to 37 CFR §1.125 and MPEP 608.01(q)
- and a Preliminary Amendment thereto;

a Marked-Up Specification showing additions and deletions between the Substitute Specification and verified English translation;

a first check in the amount of \$ 260.00 to cover the cost of the missing parts surcharge as set forth in 37 CFR 1.27; and for filing in a language other than English as set forth in 37 CFR 1.17(k); and

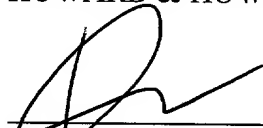
a second check in the amount of \$ 40.00 to cover the Recordal cost of the Assignment.

If any additional fees are necessary to respond to the outstanding Notice, you are hereby authorized to charge such fees to Deposit Account No. 08-2789 in the name of Howard & Howard.

A duplicate of this document is enclosed.

Respectfully submitted,

HOWARD & HOWARD ATTORNEYS, P.C.



THEODORE W. OLDS  
Registration No. 33,080  
Attorneys for Applicant  
Howard & Howard Attorneys, P.C.  
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1400 North Woodward Avenue, Suite 101  
Bloomfield Hills, Michigan 48304-2856  
(248) 645-1483

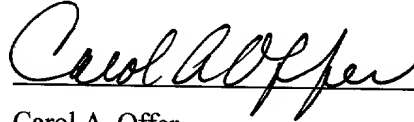
Dated: Feb. 1999



Attorney Docket No. 60,130-464

**CERTIFICATE OF MAILING**

I hereby certify that the above referenced documents are being deposited with the United States Postal Service as first-class mail, postage prepaid, in an envelope addressed to the Assistant Commissioner of Patents, Washington, D.C. on this 6<sup>th</sup> day of October, 1999.



Carol A. Offer

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Chu  
Serial No.: 09/326,308  
Filed: June 7, 1999  
Priority FR 98 08842 Filed: July 9, 1998  
Group Art Unit: Unknown  
Examiner: Unknown  
Title: DUAL CABLE ARRANGEMENT



**PRELIMINARY AMENDMENT**

Assistant Commissioner of Patents  
Washington, D.C. 20231

Dear Sir:

Please amend the application in the following particulars prior to Examination.

09326308-060799

**IN THE ABSTRACT:**

Please add a new abstract as follows:

--A window-raising device for a vehicle provides a two-cable winding drum, a hood to support and partially surrounding the drum on a support plate to form a cable passage. A flange extends from the winding drum to support sliding movement of the cable. An opening in the flange is defined by outer side ramp angled on an axis of rotation of the drum. The ramp is designed between two walls that are roughly parallel to the axis of drum and formed below the flange. The present invention thereby permits a reduction in the total height of the winding drum for the same number of grooves. The cable is inserted at an angle by sliding it on the ramp. Thus, the drum and the device as a whole are made more compact.--

**IN THE CLAIMS:**

Please cancel claims 1-4.

Please add the following new claims:

5. (NEW) An vehicle window-raising device comprising:  
a support plate;  
a winding drum having a flange to support a cable; and  
a brake box to rotatably support said drum adjacent said support plate, said brake box forming a passage to permit an angled introduction of said cable.

6. (NEW) The window-raising device according to Claim 5, wherein said flange defines an opening to receive said cable lead.

7. (NEW) The window-raising device according to Claim 6, wherein said opening includes a ramp angled relative to an axis of rotation of said drum, said ramp having adjacent walls substantially parallel to said axis.

8. (NEW) The window-raising device according to Claim 7, wherein said ramp is formed below said flange in a finger engageable with a complementary finger of a crank coaxial with said drum.

9. (NEW) The window-raising device according to Claim 7, wherein said ramp is angled at approximately 45 degrees relative to said axis.

10. (NEW) A vehicle window-raising device comprising:

a winding drum for a cable, said drum having a flange defining an opening;

a hood to support said drum adjacent a support plate; and

a brake box having a crank to drive said drum, said hood forming a passage contiguous with said support plate that permits an angled introduction of said cable through said opening, said flange having a width substantially equal to said passage, said flange providing support for said cable.

11. (NEW) The window-raising device according to Claim 10, wherein said opening includes a ramp angled relative to an axis of rotation of said drum, said ramp having adjacent walls substantially parallel to said axis.

12. (NEW) The window-raising device according to Claim 11, wherein said ramp is formed below said flange in a finger engageable with a complementary finger of a crank coaxial with said drum.

13. (NEW) The window-raising device according to Claim 11, wherein said passage extends along the periphery of said drum.

14. (NEW) A vehicle window comprising:

a guide rail having a slider attachable to a vehicle window;

a return mechanism mounted adjacent an end of said guide rail;

a cable attached to said slider and running along said return mechanism to move said slider along said guide rail;

a winding drum for said cable, said drum having a flange defining an opening;

a hood to support said drum adjacent a support plate; and

a brake box having a crank to drive said drum, said hood forming a passage contiguous with said support plate that permits an angled introduction of said cable through said opening, said flange having a width substantially equal to said passage, said flange providing support for said cable.

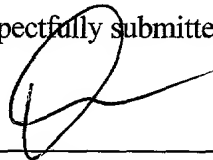
**REMARKS**

By this Preliminary Amendment numerous idiomatic problems associated with the Application as Filed are being corrected. The Application as Filed was filed in the French language corresponding to FR 98 08842.

A verified English translation of the Application as Filed and a statement that the translation is accurate pursuant to 37 CFR 1.52(d) is enclosed herewith. The enclosed Substitute Specification is being filed pursuant to 37 CFR §1.125 and MPEP 608.01(q). The enclosed Marked-Up Specification showing additions and deletions is a true copy typed identically to the Application as Filed. The Substitute Specification includes no new matter and includes the same changes as are indicated in the enclosed Marked-Up Specification.

Claims 1-4 in the Application as Filed has been canceled. New Claims 6-18 have been added. Accordingly, Claims 5-14 are currently pending and Applicant respectfully requests examination of this application.

Respectfully submitted,

  
\_\_\_\_\_  
THEODORE W. OLDS  
Registration No. 33,080  
Attorneys for Applicant  
Howard & Howard Attorneys, P.C.  
The Pinehurst Office Center  
1400 North Woodward Avenue, Suite 101  
Bloomfield Hills, Michigan 48304-2856  
(248) 645-1483

Date: 8-08-1995  
DLW/  
Enclosures



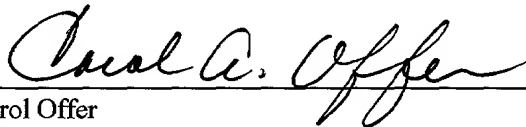


Attorney Docket No. 60,130-464

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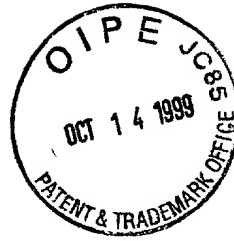
**CERTIFICATE OF MAILING**

I hereby certify that the enclosed **PRELIMINARY RESPONSE** is being deposited with the United States Postal Service as first-class mail, postage prepaid, in an envelope addressed to the Commissioner of Patents and Trademarks, Washington, D.C. 20231, on this 6<sup>th</sup> day of October, 1999.

  
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Carol Offer

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09326308-060799



60,130-464

## DUAL CABLE ARRANGEMENT FOR A VEHICLE WINDOW

### BACKGROUND OF THE INVENTION

5       The present invention relates to a window-raising device for a vehicle window of the type comprising a two-cable winding drum, a hood to support such drum partially surrounding the latter but leaving part of its circumference accessible, a hood fastening, a drum support plate, and a "brake box".

10       A brake box is provided with a crank to drive the drum in rotation, and an inner spring to prevent reverse rotation of the drum. This irreversibility prevents a partly open window from being lowered when the top edge of the window is subject to pressure.

      The hood is further shaped to form on its base contiguous with the plate a tunnel that, with the drum, defines a peripheral passage permitting manual insertion of a cable lead to engage it about one turn around the drum.

15       In a known embodiment, the drum has a slot capable of housing the lead end of the cable when it is slid through the peripheral tunnel. The latter runs practically about one half-circumference around the drum, which corresponds to the angular extent of the hood. Its size is defined to permit insertion of the cable-engaging lead between the wall of the tunnel and the drum. The lead is inserted by pushing the cable around the drum while being  
20       guided by the wall of the tunnel and sliding it on a sheet metal support track that forms part of the plate, until it reaches the relevant engagement slot, in which the operator manually introduces the lead in order to engage the cable.

      In order to make the "brake box" more compact and improve its performance, there has been a tendency to increase its diameter. Because of this, it is no longer possible to do  
25       without the ring-shaped sheet metal track on the plate surrounding the base of the drum, which must be eliminated.

### SUMMARY OF THE INVENTION

According to the present invention, a window-raising device for a vehicle provides a two-cable winding drum, a hood to support the drum and partially surrounding the latter but leaving part of its circumference accessible, a hood fastening, a drum support plate, and a "brake box". Preferably, the base of the winding drum is extended by a flange that forms a unit with the drum and whose width roughly equal to that of the passage, the flange serving as a support for sliding movement of the cable lead.

The flange forms a unit with the drum drive shoes which are placed between corresponding shoes to drive the crank. Because the flange is substantially continuous, the cable does not risk being blocked in the intervals formed by drive fingers of a crank and the drum.

An opening in the flange is defined by outer side ramp angled on an axis of rotation XX of the drum. The ramp is designed between two walls that are roughly parallel to the axis of drum and formed below the flange. The side ramp preferably has an angle of incline in relation to axis XX of  $45^\circ$  to allow the angled insertion of the cable.

The present invention thereby permits a reduction in the total height of the winding drum for the same number of grooves. The cable is inserted at an angle by sliding it on the ramp. Thus, the drum and the device as a whole are made more compact.

### BRIEF DESCRIPTION OF THE DRAWINGS

The various features and advantages of this invention will become apparent to those skilled in the art from the following detailed description of the currently preferred embodiment. The drawings that accompany the detailed description can be briefly described as follows:

5        Figure 1 is a view in perspective of an automobile vehicle window-raising device incorporating a drum device according to the invention.

Figure 2 is a perspective view on an enlarged scale of the window-raising drum in Figure 1.

10       Figure 3 is a partial view in perspective, seen from a different angle, of the device in Figure 2.

Figure 4 is a view from below of the device in Figure 3.

Figure 5A is a view in elevation of the drum from Figures 2 to 4.

Figure 5B is a view similar to that in Figure 5A showing a drum according to the prior

15       Figure 6 is an axial cross section view along 6-6 of the drum in Figure 5A.

Figure 7 is a view in perspective from below the drum in Figures 5A and 6.

### **DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT**

20       The window-raiser illustrated in the drawings includes guide rail 1 for slider 2 supporting a window that is not shown, and attached to cable 3 passing through return mechanisms 20, 21 mounted on the ends of rail 1. Beyond return mechanisms 4, 5, cable 3 divides into upper cable 3a and lower cable 3b which wind around grooves on drum 4 positioned on support plate 5 capable of turning on axis of rotation X.

25       The device includes hood 6 to support drum 4, partly surrounding it but leaving part of its circumference accessible, hood 6 being attached by its base 7 to plate 5 by fastening devices engaged in holes 10 in base 7 and plate 5. The device is completed by "brake box"

8, which is itself known, provided with crank 9 that is coaxial with drum 4, positioned on plate S, which has a passage opening for crank 9. The latter is provided with fingers 11 placed between complementary fingers 12 joined to drum 4, which is made of a plastic material, while hood 6 and plate S are made of sheet metal.

5 "Brake box" 8 contains a spring mechanism which is not shown and is itself known, which prevents reverse rotation of drum 4, thereby preventing a partly opened window from being lowered any way except by using the window-raiser.

Hood 6 is shaped in such a way as to have on its base contiguous with plate S, tunnel 13 which, with drum 4, defines peripheral passage 14 permitting manual introduction  
10 of engagement lead 15 of cable 3a (or 3b) onto about one turn around drum 4. To that end, the base of drum 4 is extended by flange 1 forming a unit with the drum, the width of which is roughly equal to that of tunnel 13.

Flange 16 continues around the base of drum 4, except for opening 17 for inserting cable lead 15. Thus, flange 16 forms a track to support and slide lead 15 around drum 4  
15 after introduction in peripheral passage 14 and winding around drum 4 until lead 15 reaches its housing 17. Because flange 16 is continuous, lead 14 does not risk being blocked in the intervals formed by drive fingers 11 of crank 9 and 12 of drum 4.

Opening 17 in flange 16 is defined by outer side ramp 18, angled on axis of rotation XX of drum 4, said ramp 18 being designed between two walls 19 that are roughly parallel  
20 to the axis of drum 4 and formed in finger 12 below apron or flange 16. The side ramp preferably has an angle of incline in relation to axis XX of 45°. Naturally, the angle of ramp 18 may vary more or less on either side of 45°, which is given by way of example only.

In the earlier design of a drum used until now, illustrated in Figure 5B, lead 15 on  
25 cable 3a (or 3b) achieved access by radial insertion in slot 22 provided in the base of drum 23. This slot 22 is roughly parallel to lengthwise axis XX of drum 23 and extends to drum

height  $h$  plus the width of the first cable insertion groove.

Compared to this earlier mode of embodiment, it is clear that the advantage of drum 4 from Figures 5A, 6, and 7 resides in the fact that radial insertion of the lead in slot 22 is replaced by insertion at an angle to axis XX in opening 17 provided in flange 16, and in finger 12, which do not exist in prior drum 23 (Figure 5B).

The present invention thereby permits a reduction in the total height of a drum having a height of  $h$ , for the same number of grooves, insertion of lead 15 being achieved as shown in Figures 6 and 7 by sliding it on ramp 18 then engaging the lead behind one or the other of two walls 19 (Figure 7). Thus, the drum and the device as a whole are made more compact.

The foregoing description is exemplary rather than defined by the limitations within. Many modifications and variations of the present invention are possible in light of the above teachings. The preferred embodiments of this invention have been disclosed, however, one of ordinary skill in the art would recognize that certain modifications would come within the scope of this invention. It is, therefore, to be understood that within the scope of the appended claims, the invention may be practiced otherwise than as specifically described. For that reason the following claims should be studied to determine the true scope and content of this invention.

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Applicant: Chu  
Serial No.: 09/326,308  
Filed: June 7, 1999  
Group Art Unit: Unknown  
Examiner: Unknown  
Title: DUAL CABLE ARRANGEMENT



Assistant Commissioner of Patents  
Washington, D.C. 20231

**REQUEST FOR DRAWING CHANGE APPROVAL**

Dear Sir:

Red lined mark-ups of the drawings incorporating a notation that Figure 5B is  
PRIOR ART is enclosed herewith. Approval of this drawing change is requested.

Respectfully Submitted,

A handwritten signature, likely of Theodore W. Olds, written in dark ink.

---

Theodore W. Olds, Registration No. 33,080  
Howard & Howard Attorneys, P.C.  
1400 N. Woodward Avenue, Suite 101  
Bloomfield Hills, MI 48304-2856  
(248)645-1483

652050-80632650

**CERTIFICATE OF MAILING**

I hereby certify that the enclosed Request For Drawing Change is being deposited with the United States Postal Service as first-class mail, postage prepaid, in an envelope addressed to the Commissioner of Patents and Trademarks, Washington, D.C. 20231, on this 6th day of October, 1999.

  
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Carol Offer

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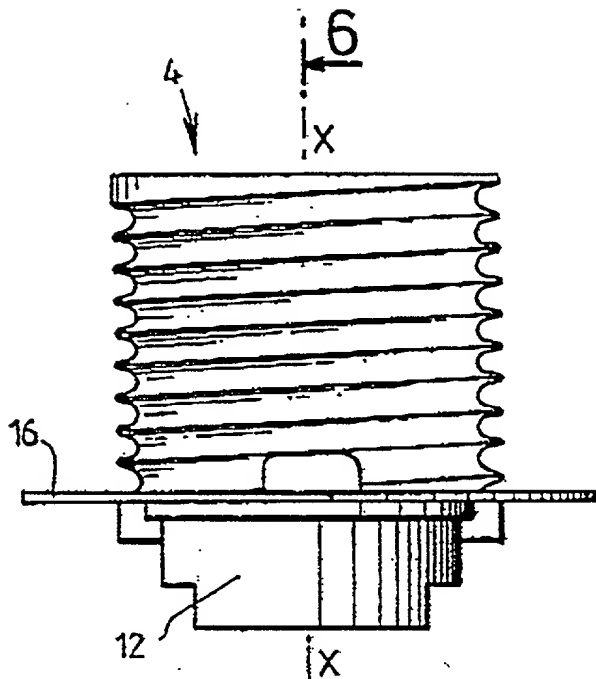


FIG. 5A

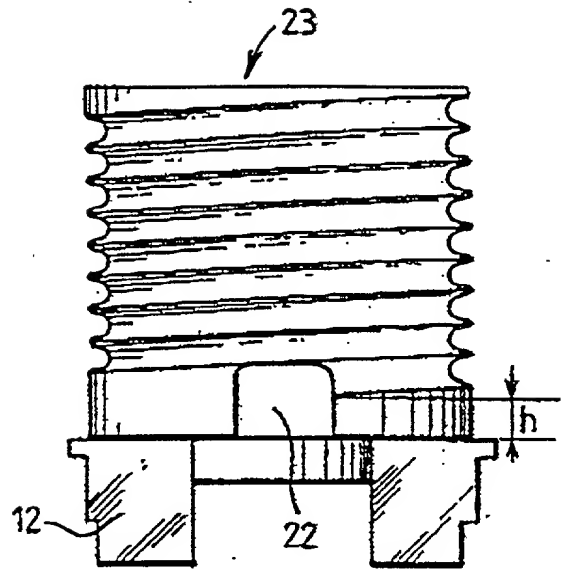


FIG. 5B  
PRIOR ART

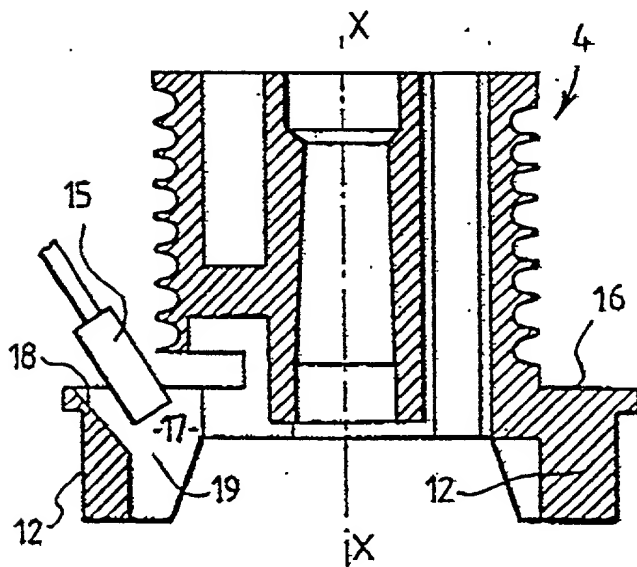


FIG. 6

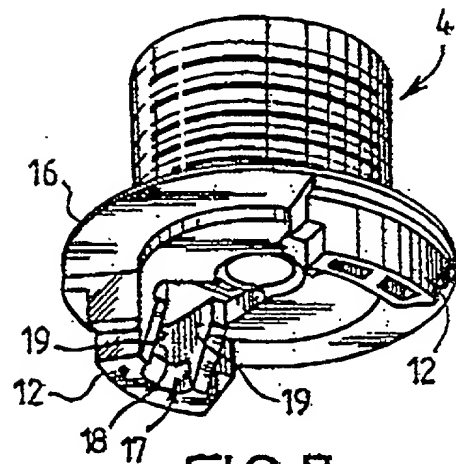
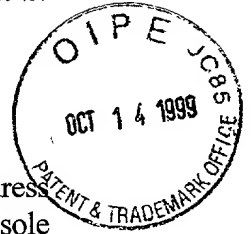


FIG. 7

**COMBINED DECLARATION AND POWER OF ATTORNEY**  
(Original Application - Sole Inventor - Priority Claimed)



As the below named inventor, I hereby declare: that my residence, post office address and citizenship are as stated near my name below; that I believe I am the original, first and sole inventor of the subject matter of which is claimed and for which a patent is sought on the invention entitled:

**CABLE ARRANGEMENT FOR A VEHICLE**

which is described and claimed in the attached specification and amended by an amendment thereto submitted therewith (if any); that I have reviewed and understand the contents of this specification, including the claims, as amended by any amendment referred to above; that I do not know and do not believe the same was ever known or used in the United States of America before my invention thereof or patented or described in any printed publication, in any country before my invention thereof for more than one year prior to this application, or in public use or on sale in the United States of America more than one year prior to this application; that the invention has not been patented or made the subject of an inventor's certificate issued before the date of this application in any country foreign to the United States of America on an application filed by me or my legal representatives or assigns more than twelve (12) months prior to this application; that I acknowledge my duty to disclose information of which I am aware which is material to the examination of this application in accordance with Title 37, Code of Federal Regulations, Section 1.56(a); and that no application for patent or inventor's certificate on this invention has been filed in any country foreign to the United States of America prior to this application by me or my legal representatives or assigns except as follows:

**PRIORITY CLAIM**

I hereby claim priority benefits under Title 35, United States Code, Section 119 of any foreign application(s) for patent or inventor's certificate or of any PCT international application(s) designating at least one country other than the United States of America or United States Provisional Application listed below and have also identified below any foreign application(s) or patent or inventor's certificate or any PCT international application(s) designating at least one country other than the United States of America filed by me on the same subject matter having a filing date before that of the application(s) of which priority is claimed.

COUNTRY	APPLICATION NUMBER	DATE OF FILING	PRIORITY CLAIMED Under 35 USC 119
French	98 08842	July 9, 1998	Yes <u>X</u> No <u>  </u>


I hereby appoint Raymond E. Scott, Registration No. 22,981; William H. Honaker, Registration No. 31,623; Theodore W. Olds, Registration No. 33,080; John E. Carlson, Registration No. 37,794; Harold W. Milton, Jr., Registration No. 22,180; David J. Gaskey, Registration No. 37,139; Robin W. Asher, Registration No. 41,590; Samuel J. Haidle, Registration No. 42,619; Kerrie A. Laba, Registration No. 42,777; Randall L. Shoemaker, Registration No. P43,118; Jeffrey A. Sadowski, Registration No. 29,005; William Gottschalk, Registration No. 44,130; and Rhonda L. McCoy-Pfau, Registration No. 37,887 as my attorneys to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith. Please address all correspondence and telephone calls to Theodore W. Olds at:

**Theodore W. Olds**  
**HOWARD & HOWARD ATTORNEYS, P.C.**  
**1400 North Woodward Avenue**  
**Suite 101**  
**Bloomfield Hills, Michigan 48304-2856**  
**(248) 645-1483**

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Dated: September 1<sup>st</sup>, 1999

Full Name of Sole or First Inventor: Yi-Hwa Chu

Inventor's Signature: 

Residence: 81, chemin Des Brosses, 45570 Ouzouer Sur Loire FRANCE

Citizenship: France

Post Office Address: As above.

SCANNED: 6